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HONEYWELL INTERNATIONAL INC.
101 COLUMBIA ROAD
P O BOX 2245
MORRISTOWN, NJ 07962-2245

EXAMINER

VORTMAN, ANATOLY

ART UNIT

PAPER NUMBER

2835

DATE MAILED: 05/22/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/966,460

Applicant(s)

DAVIS ET AL.

Examiner

Anatoly Vortman

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 April 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 13 and 28 is/are allowed.
- 6) ☐ Claim(s) 1-12, 17-27 is/are rejected.
- 7) ☒ Claim(s) 14-16 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Amendment

1. The submission of the amendment filed on 04/24/03 (paper # 5) is acknowledged. Claims 1-7, 13, 17-20, and 22-27 have been amended and claim 28 has been added, thus claims 1-28 are pending in the instant application.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claim 18 is rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Recitation of claim 18 “the electrically resistive conductor is coupled between the first terminal and the second terminal” contradicts with the recitation of parent claim 17 which states that “an electrically resistive element coupled between the first terminal and an other terminal”.

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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5. Claims 20 and 27 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention.

Claim 20 recites the limitation “a constantly closed electrically resistive conductor”. The aforementioned limitation is not understood. It’s not clear how the conductor can be “constantly closed”. “Constantly closed” can be a switch or contacts, but not the conductor.

Claim 27 recites limitations “the electrical circuit means for operating the detecting of the minimum electrical resistance”. The aforementioned recitation is not understood. “The means for operating “ is a clause, which is representative of a structural element(s) which could be used for operating another structural element(s), but not for operating the method step (i.e. the detecting of minimum electrical resistance).

Also, there is no antecedent basis had been provided for said “electrical circuit means”.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-6, 17, 19-26, are rejected under 35 U.S.C. 102(b) as being anticipated by US/4,306,210 to Saur.

Regarding claim 1, Saur disclosed (Fig. 3, 4) a snap-action thermal switch structured in a normally open configuration; and a discrete resistive conductor (PTC resistor (31), column 3, line 45) integral with the snap-action thermal switch and coupled to an output thereof (Fig. 4), the conductor being remote from an actuator (26) of the thermal switch.

Regarding claim 2, Saur disclosed that the resistive conductor (31) and the snap-action thermal switch share one or more common terminals (1).

Regarding claims 3 and 4, Saur disclosed that the snap-action thermal switch is structured having a pair of terminals (1, 9"; 1,9"; or 9',9") being mutually electrically isolated when the snap-action thermal switch structured in the normally open configuration; and the integral resistive conductor (31) is electrically coupled to provide an output on the pair of electrically isolated terminals (1, 9"), wherein the pair of electrically isolated terminals is shorted together when the device senses an ambient temperature higher than a set point of the snap-action thermal switch (Fig. 3).

Regarding claims 5 and 6, Saur disclosed that said integral resistive conductor (31) is mounted on an interior surface of the snap-action thermal switch (Fig. 3) or on an exterior surface of said switch (column 4, line 45).

Regarding claims 17, 19, and 20, as best understood, Saur disclosed (Fig. 3) a three-terminal, snap-action thermal switch, comprising: mutually spaced apart and electrically isolated first (9'), second (1) and third (9'') electrical terminals mounted in a header (8); a fixed electrical contact (16) being positioned on the first terminal (9'); a movable electrical contact (27) being positioned on the second terminal (1) and being biased into electrical contact with the fixed electrical contact (16); a bimetallic actuator (26) being convertible as a function of temperature

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between a first state wherein an actuation portion is positioned to space the movable electrical contact (27) away from the fixed electrical contact (16) and a second state wherein the actuation portion is positioned to permit electrical contact between the movable electrical contact (27) and the fixed electrical contact (16); and an electrically resistive conductor (PTC resistor (31), column 3, line 45) coupled between the third electrical terminal (9'') and the second (1) electrical terminal and being spaced away from the actuator (26).

Regarding claims 21 and 22, Saur disclosed a housing (1) coupled to the header (8) and cooperating with the header (8) to encase the resistive conductor (31), the fixed (16), and movable (27) contacts.

Regarding claim 23, Saur disclosed that said resistive conductor (31) is external to the cooperating housing (1) and header (8), (column 4, line 45).

Regarding claims 24-26, and 27, as best understood, the method steps recited in the claims are inherently necessitated by the device structure as disclosed by Saur.

8. Claims 7 and 8, are rejected under 35 U.S.C. 102(b) as being anticipated by US/5,337,036 to Kuczynski.

Regarding claims 7 and 8, Kuczynski disclosed a thermal sensor (Fig. 9 and 24), comprising: a single pole, single-throw switch having first (18, 19) and second (12) electrical contacts structured in a normally open configuration (column 7, lines 1+), the first contact (18) being movable relative to the second contact (12); a bimetallic actuator (22) having first and second physical states and positioned relative to the first electrical contact (18,19) and responsive to a sensed temperature external to the switch for spacing the first movable contact (18, 19) away

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from the second contact (12) while changing said first and second physical states; and an electrical resistor (310a) coupled in parallel (column 14, lines 29-34) the first and second contacts and spaced away from the actuator (22).

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 9-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kuczynski ('036).

Regarding claims 9-12, Kuczynski disclosed all of the claims limitations as apply to claim 8, but did not disclose a plurality of snap-action thermal switches.

It would have been obvious to one having ordinary skill in the thermal switch art at the time the invention was made to provide any desirable quantity of identical thermal switches in the device in order to accommodate said device for particular application, since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*; 193 USPQ 8.

Allowable Subject Matter

11. Claims 13 and 28 are allowed.

12. Claims 14-16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

13. The following is a statement of reasons for the indication of allowable subject matter: claims 13, 14, and 28 recite “a means for determining” and claim 15 recites “a logic circuit”.

The aforementioned recitations in combination with remaining limitations of claims 13-15 and 28, are believed to render the subject matter of said claims 13-15 and 28, and of the dependent claim 16 patentable over the art of record.

Response to Arguments

14. Applicant's arguments filed on 04/24/03 have been fully considered but they are not persuasive.

Regarding the rejection of claim 18 under 35 USC 112, first paragraph, the Examiner believes that despite of the clarification introduced into the claim, emphasizing that “the other terminal is identical to the second terminal”, claim 18 is remaining in contradiction with the parent claim 17, since said second and other terminals, while being identical in design, are two

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distinct terminals (i.e. not the same thing, since claim 17 is directed to a three-terminal thermal switch), and claim 17 requires for the electrically resistive conductor to be coupled between the first terminal and the other terminal, not between the first terminal and the second terminal, as required by claim 18.

Regarding the art rejection, the Examiner believes that despite of the amendments, rejected independent apparatus claims still read on the primary references used by the Examiner.

Regarding the art rejection of claim 1, the main thrust of the Applicant's arguments is directed to the assertion that in Saur ('210) "semiconductor element 31 inherently cannot be coupled to an output of the switch". The Examiner believes that the resistive element (31) is clearly coupled to the output of the switch as shown on Fig. 4, since resistive element (31) is coupled to a load (I), i.e. to the output of the switch. Please note, that despite of being a two-stage switch, the switch of Saur is constructed structurally as one unit, therefore it has been interpreted by the Examiner as a single switch.

Regarding the art rejection of claim 7, the main thrust of the Applicant's arguments is directed to the assertion that resistance type heating element of Kuczynski ('036) is not a discrete electrical resistor. On the contrary, the Examiner believes that as depicted on Fig. 24, the resistance element (310a) is a discrete element, since it's neither embedded into, nor formed integrally in any other way with the switch structure.

Conclusion

15. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anatoly Vortman whose telephone number is 703-308-7824. The examiner can normally be reached on 9:30-6:00, Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Darren Schuberg can be reached on 703-308-4815. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-3431 for regular communications and 703-305-3432 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1782.

Anatoly Vortman
Primary Examiner
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A handwritten signature in black ink, appearing to read 'A. Vortman', with a long horizontal flourish extending to the right.

A.V.
May 20, 2003